

Northern Great Plains Network

Inventory and Monitoring Monthly Report

January 2002

Greetings! I'm very pleased with the just-concluded Northern Great Plains I&M meeting held in Rapid City, South Dakota. I got a lot out of the meeting and hope you did too. This month's newsletter consists essentially of the notes and minutes from the meeting. If interested in any of the Powerpoint Presentations given at the meeting please contact me.

Status of Non-biotic Inventories: At the meeting we briefly discussed the status of the "12 Basic Inventories" for each park. Some information for the presentation came in too late to fully incorporate into my Powerpoint presentation, therefore, I'm including that information below.

From Pete Biggam (Soils)

Dan,

In regards to your interest in the status of soil surveys for Northern Great Plains Network Parks, I'm attaching several files that should answer your questions.

I did want to clarify a potential situation in that some of the parks may currently have some type of soils information, maps, etc., currently in their possession, but they may not be the actual format or product that we are shooting for as part of the NPS Soils Inventory and Monitoring Program, or the products they have may actually be "interim" products supplied by the local Natural Resources Conservation Service (NRCS) office, but are not the "final" products. This may be that the park has hardcopy maps, but not the digital ones, or the soils database is in an older format, or they do not have the final soil survey report.

The reason I say this is that some of the parks may question the "actual" status as supplied to you today based upon some of these situations.

In regards to the Soils I&M Products, we are basically looking at 4 major products; a digital soils map, a set of soil attributes created from the National Soils Information System (NASIS) database, FGDC compliant metadata, and a soil manuscript/report which contains soil map unit descriptions, tables, background on how mapping was done, etc. All of this data will be incorporated into a product which can be used with ArcView and the NPS GIS Theme Manager, and in the case of the soils products, we will also include a copy of the NRCS Soils Data Viewer to facilitate queries, reports, etc. It's my responsibility to check the completeness of these products, so in cases such as THRO, they may have received interim products from NRCS, but we (NPS) still need to provide the "final NPS product".

In other situations, NRCS has mapped portions of these NPS units as part of county level soil surveys, and in the case of BADL, the actual coverages may not match up 1:1 across county lines, so we will be working with NRCS to perform a correlation to handle these situations, so we (NPS) can receive one seamless database for our NPS units, rather than pieces.

Also, **NIOB** and **MNRR** were not on our original list of NPS units to obtain soils (or other I&M themes) for. This issue can still be resolved thru proper channels, but my database does not reflect any status on these units.

Here's a spreadsheet that has a concise overview at the current time;

1997 Soil Survey Inventory Priorities Updated to December 14, 2001 Status						
PARK-CODE	PARKNAME	PRIORITY	STSSAID	MAPPING STATUS	DIGITIZING STATUS	COMMENTS
AGFO	Agate Fossil Beds NMON	79	NE165	Mapping Complete	In Progress	
BADL	Badlands NP	45	SD071, SD113, SD605	Mapping Complete	Planned	Needs correlation to one soil survey
DETO	Devils Tower NMON	10	WY011	Needs Update		Mappin
FOLA	Fort Laramie NHS	73	WY615	Needs Update		Older mapping that is out of date
FOUS	Fort Union Trading Post NHS	46	Multiple	Needs Correlation	Planned	Needs correlation to one soil survey
JECA	Jewel Cave NMON	1	SD604	Mapping Complete	Complete	
KNRI	Knife River Indian Village NHS	82	Inactive	Inactive		
MORU	Mount Rushmore N MEM	1	SD604	Mapping Complete	Complete	
MNRR	Missouri NRR	*	Multiple	Inactive		
NIOB	Niobrara NSR	*	Multiple	Inactive		
SCBL	Scotts Bluff NMON	1	NE157	Mapping Complete	Complete	
THRO	Theodore Roosevelt NP	1	ND007, ND053	Mapping Complete	Planned	ALSO NEED ND053
WICA	Wind Cave NP	1	SD604	Mapping Complete	Complete	

I'll provide a current overview for each unit, and try to reflect issues as to completeness, or when soil scoping sessions may be held, etc.

AGFO

Mapped as part of the Sioux County, NE soil survey. Mapping is complete, and it is currently being digitized. Once we receive the digital dataset, we will "cut-out" the corresponding geographic area to ensure a "safe soils coverage extent". We will be processing the soil survey report this FY, as well as editing metadata, and incorporating it into NPS GIS Theme Manager format with Soils Data Viewer.

BADL

Currently BADL has several soil survey areas which cover it, some of which are currently in a digital format. We plan on having a soils scoping session in FY02 and meet with NRCS to determine if current product will meet local and national needs. We would like to have ecological site descriptions developed for all soil map units, as well as have a special soil survey report, and soil fact sheets, I&E products, etc., developed. We will coordinate with BADL and NRCS schedule a soils scoping session in FY02, to address issues as to correlating soil map units to one legend and database, and to determine if current mapping meets local needs for management issues.

DETO

Current available mapping may be incomplete, or out of date. Plan on having a soils scoping session in FY03

FOLA

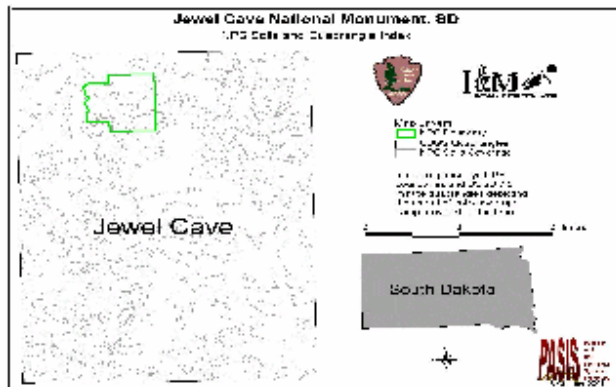
Current available mapping out of date. Plan on having a soils scoping session in FY03.

FOUS

Need to determine current status of the various soil surveys which appear to cover this unit. Need to review level of detail of mapping, as well as status of soils databases. At the minimum, we would need correlation from NRCS to obtain one seamless coverage for this unit. Initial review on this unit will be performed in FY02.

JECA

Mapping is complete, digitizing is complete, and product has been modified to be used in NPS GIS Theme Manager and Soils Data Viewer. Still need to develop manuscript and metadata. Scheduled for completion in FY02. Attached is a graphic to show extent of mapping which will be provided.

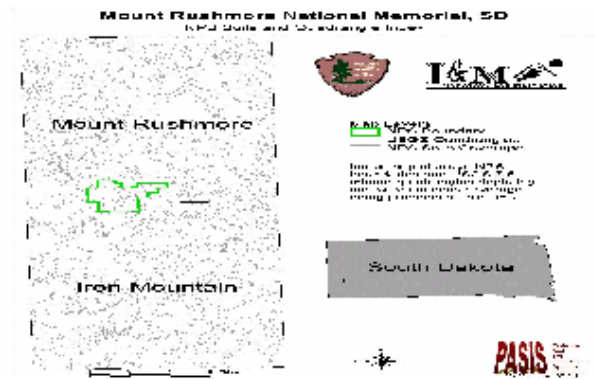


KNRI

No activity at this time. Several soil survey areas cover this unit, and a soils scoping session has been tentatively scheduled for FY04.

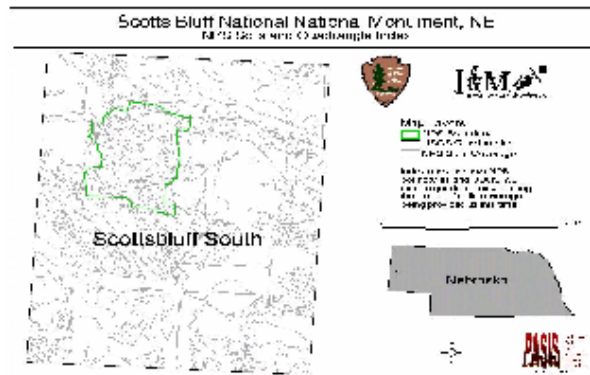
MORU

Mapping is complete, digitizing is complete, and product has been modified to be used in NPS GIS Theme Manager and Soils Data Viewer. Still need to develop manuscript and metadata. Scheduled for completion in FY02. Attached is a graphic to show extent of mapping which will be provided.



SCBL

Mapping is complete, digitizing is complete, and product has been modified to be used in NPS GIS Theme Manager and Soils Data Viewer. Still need to develop manuscript and metadata. Scheduled for completion in FY02. Attached is a graphic to show extent of mapping which will be provided.

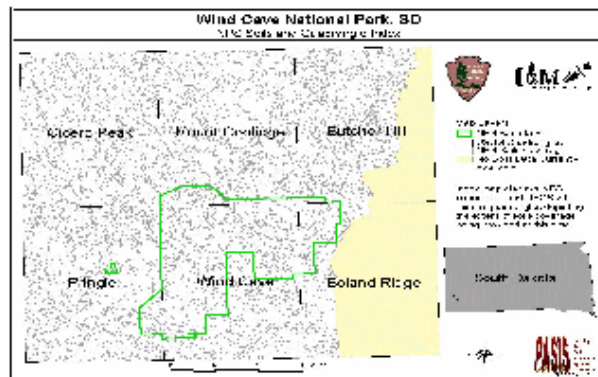


THRO

This unit had a previous Interagency Agreement with NRCS to provide soils information, and some of the interim products have been provided to THRO. We are looking at enhancing "original" deliverables to allow for their use in NPS GIS Theme Manager and Soil Data Viewer, which would require database conversion via National Soils Information System (NASIS), as well as a look at obtaining ecological site descriptions, and a special soil survey report. These activities will be pursued in FY02.

WICA

Mapping is complete, digitizing is complete, and product has been modified to be used in NPS GIS Theme Manager and Soils Data Viewer. Still need to develop manuscript and metadata. Scheduled for completion in FY02. Attached is a graphic to show extent of mapping which will be provided.



Let me know if you need any additional info,

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From John Ray (Air Quality and Weather)

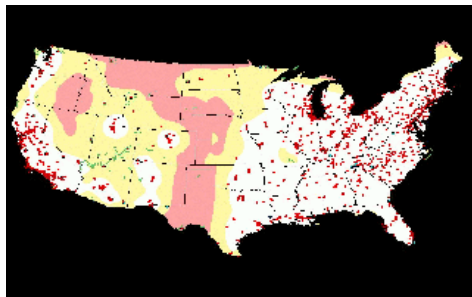
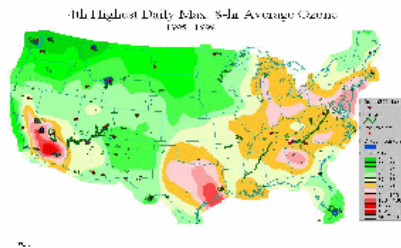
Hello Dan,

We have basically completed our GIS analysis of air quality and monitoring locations. We have a table of all I&M parks with estimated air quality values for each. Associated with that is the "Air Atlas" with the interpolation maps for each air quality parameter. We have a prototype web site working with ArcIMS for the maps and another Intranet site that has a draft version of the estimations table. Neither of those are much help while the Internet is shut down for DOI. I'm working on getting all the GIS files together to transfer to the I&M GIS archives. The files about where monitoring is located are about to be distributed on an Natural Resources intranet web site.

The weather data I consider to have already been done by the weather service and available as CD-ROM product from the National Climate Data Center. I plan to cross-check our direct meteorological measurements from the air quality monitoring stations with the climate interpolation maps, but that was not an initial part of my project. A select number of climate maps will be made available on the ArcIMS-based web site. I think the I&M program has some other climate mapping going on, also.

I can provide you some sample AQ parameter maps and a list of AQ estimates for the parks you have listed. These would be in a PowerPoint file that you could show or printout. If you would like these, please let me know and I'll try to get them to you this week.

Here are two sample maps for ozone pollution. The first map is for a statistic similar to the National Ambient Air Quality Standard (standard is 85 ppb). Your region is projected to be well below the health standard for ozone. The second map plots uncertainty in our interpolations from the existing monitoring network. The areas in yellow and red are where uncertainty was poor (i.e. high variance in the estimations). The red areas are severely under represented in monitoring data. Ozone monitoring tends to be around population centers (red dots are monitoring stations) which explains why there isn't much in the red area.



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From Mike Story (Veg Maps)

Hello Dan,

THEO and BADL are complete also. KNRI and FOUS should be started (and completed) this year. As of today, there are no firm plans for NIOB or MNRR.

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From Dean Tucker (Water Quality and Mapping)

Dan,

The seventh and eighth databases listed in **NPS-75 - Natural Resources Inventory and Monitoring Guideline** (Appendix A, p. 28, July 1992) are:

7. Water resources inventory

a. Location (with additional classification from that included in digital cartographic information) of:

streams, lakes, wetlands, groundwater (hot springs, cold springs)

b. Water quality use classifications

8. Water chemistry of key water bodies, based on size, uniqueness, representativeness, threats, etc., including:

All of the parks in the Northern Great Plains Network have received their Baseline Water Quality Data Inventory and Analysis Report (and dataset #8 above) except WICR. We hope to have WICR's report complete by late 2002 or early 2003 depending on when our revised report procedures are completed. We've already pulled together most of the available water quality data for WICR.

The 7(a) Water resources inventory has not been done for any national park unit yet. There is still discussion about what a water resources inventory should encompass. The Water Resources Division believes that such an inventory should include national standard datasets such as the high-resolution (1:24,000 scale) National Hydrography Dataset (NHD) and National Wetlands Inventory data for all NPS units. There are some who believe that this inventory was taken care of by the fourth database listed in NPS-75 (digital base cartographic data which included 1:24,000 scale DLG hydrography). The 1:24,000 scale DLG hydrography is not a suitable hydrographic inventory and is no longer supported by the USGS which, along with the EPA, has adopted the NHD as the national hydrography standard (see NHD.USGS.GOV for more information). Some good news on 7(b) Water quality use classifications ... we did hire a research associate last month to begin working on this theme. Hopefully we'll begin to have some products - state designated beneficial uses and impairment status - keyed to the 1:100,000 scale NHD by the end of 2002.

If you or anyone at the meeting has any questions or comments, please feel free to give me a call at 970-225-3516.

Cheers, Dean

Permanent I&M Program Office Location: All parks supported locating the Northern Great Plains I&M Program in the proposed USFS building along Highway 16 (i.e., the road to MORU). As discussed at the meeting, the USFS had already taken the liberty of including us in their conceptual drawings (although I must admit that I was surprised that the extra square footage was to be included regardless of our decision). The building should be completed in FY04. I believe this is an excellent arrangement for the program and consistent with Congress' intent. I will continue to work with the USFS on the details of the arrangement.

Synthesis: Dave Krueger talked about Synthesis (as well as an associated product designed for interpretive use). As mentioned at the meeting, I am offering the support of the I&M Program to any parks that would like to install and make use of the program. Please contact me if you would like our assistance.

USGS-BRD: Glen Sargeant discussed the USGS-BRD research program stationed in Jamestown. Especially relevant to the NGP Network is the potential to place a research biologist in the Black Hills area. I strongly encourage Network parks to make use of BRD resources and to promote in any way possible the placement of a BRD scientist in the Black Hills.

CESU: Gary Willson talked about the Great Plains CESU stationed in Lincoln, Nebraska. I expect to make regular use of the CESU for I&M work because of the efficiencies and cost savings that come with the program.

Voucher Storage: I will form a subcommittee to explore the voucher question. If you are interested in serving on this committee please let me know. The majority of the parks expressed interest in a central repository, although for a variety of reasons (e.g., availability for researchers, no place to keep specimens). Several attendees stated that the Network should fund/hire someone to enter and track the voucher specimens. Here's a summary of the notes on the voucher discussion as captured by Dawn:

AGFO -- Currently have capability, but recommended exploring University of Nebraska State Museum (UNSM) option.

BADL -- Would like I&M Program to find some place to put them. Recommend paying a contractor or NPS to ensure work gets done. Need more details.

DETO -- ?

FOLA -- Recommend pursuing UNSM. Need to look into archiving of field notes.

FOUS -- They're ok for long-term. Recommend exploring UNSM

JECA -- Cannot store locally. Agree with BADL.

KNRI -- Can hold what they have, or, hold a "teaching collection" and send others off.

MNRR -- Recommend pursuing UNSM.

NIOB -- Like BADL idea. Recommend having a representative at the University.

MORU -- Can store specimens, but not equipped for research. Said that specimens better off at UNSM.

SCBL -- Would like to keep in park but have no space. Therefore, recommend central repository.

THRO -- Have room to keep specimens. Give university leftovers. Wants contract or dedicated person to do work.

WICA -- Recommend having someone to watch out for us.

Monitoring: After discussions by Lisa Thomas of LTEM, Cody Wienk on the Fire Effects program, and the USFS we had a trial run at identifying stressors on the health of the natural resources in the parks. We will visit this issue repeatedly over the next 24 months, including some one-on-one visits. For the record, the parks identified the following:

No. Great Plains Stressors	
AGFO	exotics, absence of fire, absence of grazing, upstream impacts and altered hydrographs
BADL	water availability in a closed system, fragmentation, exotic species, air quality due to powerplants, unnatural grazing regime, wildlife disease of sheep
DETO	small size, exotics, altered hydrograph
FOLA	(did not participate in exercise)
FOUS	altered hydrograph, restoration veg efforts, exotic plants
JECA	exotic plant treatment, fire, residential development and adjacent land use
KNRI	air quality due to powerplants, exotics (grasses), dutch elm disease/fungus, water flow in terms of altered hydrograph
MORU	visitors, fireworks, goats (contributed by other parks present)
MNRR	development, dams, exotics
NIOB	fire suppression, visitor use/streams, purple loosestrife (i.e., exotic plants)
SCBL	urban encroachment, exotic plants, lack of native ungulates
THRO	energy developments and effect on air quality, visitation, exotic species
WICA	grazing in a closed system, fire, wildlife diseases, water degradation in regards to mining

These stressors will ultimately play a major role in identifying Vital Signs and what is monitored at each park. Therefore, I strongly encourage parks to discuss these stressors and Vital Signs monitoring with other park staff, interested publics, scientists, etc., over the next 24 months.

Meeting Attendees: Somehow I forgot to circulate a signup sheet for the meeting. Therefore, the following (based on my memory) will have to suffice as the attendance list. If you know of any corrections please forward them. Thanks.

Table 1. List of attendees at I&M meeting in Rapid City, SD, January 16, 2002.

ATTENDEE	TITLE	PARK	PHONE #
Ruthann Knudson	Superintendent	AGFO	308-668-2211
Brian Kenner	Chief of Nat Resources	BADL	605-433-5260
Sandee Dingman	Nat Res Specialist	BADL	605-433-5262
Bill Supernaugh	Superintendent	BADL	605-433-5280
Jim Cheatham	Chief of Nat Resources	DETO	307-467-5283
Tammy Benson	Chief Ranger	FOLA	307-837-2221
Andy Banta	Superintendent	FOUS	701-572-9083

Dawn Holguin	Biological Technician	I&M	605-433-5361
Mike Wiles	Chief Res Management	JECA	605-673-2061x1226
Todd Suess	Superintendent	JECA	605-673-2061
John Moeykens	Chief Ranger	KNRI	701-745-3234
Lisa Eckert	Superintendent	KNRI	701-745-3741x10
Wayne Werkmeister	Res Mngmt Spec	MNRR	402-336-3970
Paul Hedren	Superintendent	MNRR/NIOB	402-336-3970
Don Hart	Supervisory Ranger	MORU	605-574-2523
Bruce Weisman	Curator	MORU	605-574-2523x168
Steve Cinnamon	Chief of Natural Resources	MWRO	402-221-3437
Carmen Blausey	Res Mngmt Spec	NIOB	402-336-3970
Bob Manasek	Res Mngmt Spec	SCBL	308-436-4340
Valerie Naylor	Superintendent	SCBL	308-436-4340
Mike Oehler	Wildlife Biologist	THRO	701-623-4730x3567
Russ Runge	Chief of Nat Resources	THRO	701-623-4466
Carolyn Barker	Chief of Administration	THRO	701-623-4466
Steve Hager	GIS Specialist	THRO	701-623-4466
Paula Anderson	Biological Technician	THRO	701-623-4466
Noel Poe	Superintendent	THRO	701-623-4466
Linda Stoll	Superintendent	WICA	605-745-4600
Dan Roddy	Nat Res Specialist	WICA	605-745-4600x1157
Barb Muenchau	Bio Tech-wildlife	WICA	605-745-4600
Marie Curtin	Bio Tech-plants	WICA	605-745-4600x1179
Andy Thorstenson	Fire Effects Monitor	WICA	605-745-4600x1173
Ed Delaney	GIS Specialist	WICA	605-745-4600

Table 2. List of presenters at I&M meeting in Rapid City, SD, January 16, 2002.

PRESENTER	TITLE	AFFILIATION	PHONE #
Dan Licht	Network I&M Coordinator	NPS-MWRO	605-433-5266
Dave Krueger	IT Specialist	NPS-Natural Resource Inf. Div.	303-969-2033
Glen Sargeant	Statistician/Mammals	USGS-BRD; Jamestown ND	701-253-5528
Bill Schleining	Forest Staff Officer	USFS-Black Hills National Forest	605-673-9204
Gary Willson	CESU – Northern Plains	NPS-MWRO	402-472-5047
Lisa Thomas	LTEM Coordinator	NPS-Prairie Cluster LTEM	417-732-6438x270
Cody Wienk	Fire Ecologist	NPS-Northern Great Plains	605-745-1172
Kerry Burns	Forest Wildlife Biologist	USFS-Black Hills National Forest	605-673-9232
Denise Wickwar	Technical Assistant	USFS-I&M Institute	970-295-5710